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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/070,353	02/25/2002	Masakazu Sugimoto	52433/682	7090

26646 7590 08/16/2004

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EXAMINER	
FLANDRO, RYAN M	

ART UNIT	PAPER NUMBER
3679	

DATE MAILED: 08/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Interview Summary	Application No.	Applicant(s)	
	10/070,353	SUGIMOTO ET AL.	
	Examiner	Art Unit	
	Ryan M Flandro	3679	

All participants (applicant, applicant's representative, PTO personnel):

(1) *Ryan M Flandro*. (3)_____.

(2) *John J. Kelley*. (4)_____.

Date of Interview: *10 August 2004*.

Type: a)☒ Telephonic b)☐ Video Conference
c)☐ Personal [copy given to: 1)☐ applicant 2)☐ applicant's representative]

Exhibit shown or demonstration conducted: d)☒ Yes e)☐ No.
If Yes, brief description: *Two exhibits were presented. The first was a model of figure 2 of the instant application. The second was a model of figure 2 of prior art reference JP 50-77653*.

Claim(s) discussed: *Claims 19-24*.

Identification of prior art discussed: *JP 50-77653 and US 3,113,760 (presented in IDS on 4/8/04)*.

Agreement with respect to the claims f)☒ was reached. g)☐ was not reached. h)☐ N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: *See Continuation Sheet*.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN ONE MONTH FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WHICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

RMF
8/10/04

GREGORY J. BINDA
PRIMARY EXAMINER

Examiner Note: You must sign this form unless it is an Attachment to a signed Office action.

_____
Examiner's signature, if required

Summary of Record of Interview Requirements

Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record
A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews
Paragraph (b)
In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

37 CFR §1.2 Business to be transacted in writing.
All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:
- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:
1) A brief description of the nature of any exhibit shown or any demonstration conducted,
2) an identification of the claims discussed,
3) an identification of the specific prior art discussed,
4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
5) a brief identification of the general thrust of the principal arguments presented to the examiner,
   (The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
6) a general indication of any other pertinent matters discussed, and
7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.

Continuation of Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: Applicant's Representative contacted the Examiner to schedule an interview for 8/10/04. Applicant's Representative presented proposed claim amendments to the independent claims as well as two new dependent claims (see attached). The prior art reference JP 50-77653 was discussed in light of Applicant's model and an English translation of the reference and it was determined that the proposed claims read over the reference. A model of Applicant's invention shown in the embodiment of figure 2 was also compared. Applicant's representative also discussed prior art reference US 3,113,760 in view of the proposed claims and it was determined that the proposed claims distinguished from this reference on the basis of the orientation of the reinforcing ribs between the columnar structure and the base plate or coupling flange. Applicant's Representative indicated that a formal response incorporating the proposed amendments would follow.

I hereby certify that this correspondence is being transmitted by facsimile to the United States Patent and Trademark Office to Fax No. 703-746-8727 on August 2, 2004.

John J. Kelly, Jr.

Fax Transmission

Fax No.: 703-746-8727

To: Examiner Ryan M. Flandro
Art Unit 3679
United States Patent and Trademark Office

From: John J. Kelly, Jr.

Re: U.S. Application No. 10/070,353

Docket No.: 52433/682

Date: August 2, 2004

This is in reference to our telephone conversation of August 2, 2004 in which an interview scheduled for Tuesday, August 10, 2004 at 1:00 pm was discussed.

Enclosed is an English translation of Japan No. 50-77653 (Utility Model) which is the prior art reference cited in the Office Action mailed April 13, 2004 to reject pending claims 19-22.

Also enclosed is a draft of proposed amended claims 19-22. Proposed new dependent claims 23 and 24 are being presented.

Support for the amendment --with said reinforcing ribs located entirely external to the surface of said columnar structural member (claim 19 and 20) ... or ... said structural member (claims 21 and 22) -- may be seen, e.g., in Fig. 25 (plan view of Fig. 3); Fig. 27 (plan view of Fig. 6); and Fig. 29 (plan view of Fig. 7). See description of Figs. 25, 27 and 29 at page 5. Fig. 7 is a V-shape embodiment. See page 8, line 37 to page 9, line 2.

New dependent claims 23 and 24 are disclosed in the specification at page 13, lines 26-31

John J. Kelly, Jr.
Reg. No. 29,132

Enclosures

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DRAFT

LISTING OF THE CLAIMS

Claims 1-18: (canceled).

19 (currently amended): A joining structure that is reinforced by welding a columnar structural member to a base plate or a coupling flange via reinforcing ribs, characterized in that: said reinforcing ribs are tabular members gradually bent into a shape of U along the surface of said columnar structural member with said reinforcing ribs located entirely external to the surface of said columnar structural member; and said gradually bent portions having the shape of U protrude from the surface of said columnar structural member in a manner in which said gradually bent portions are located at ~~an~~ a first end of said reinforcing ribs opposite to said base plate or coupling flange and a second end of said reinforcing ribs opposite to said first end is located adjacent to said base plate or coupling flange, wherein said reinforcing ribs are welded to both said columnar structural member and to said base plate or coupling flange.

20 (currently amended): A joining structure that is reinforced by welding a columnar structural member to a base plate or a coupling flange via reinforcing ribs, characterized in that: said reinforcing ribs are tabular members gradually bent into a shape of V along the surface of said columnar structural member with said reinforcing ribs located entirely external to the surface of said columnar structural member; and said gradually bent portions

having the shape of V protrude from the surface of said columnar structural member in a manner in which said gradually bent portions are located at ~~an~~ a first end of said reinforcing ribs opposite to said base plate or coupling flange and a second end of said reinforcing ribs opposite to said first end is located adjacent to said base plate or coupling flange, wherein said reinforcing ribs are welded to both said columnar structural member and to said base plate or coupling flange.

21 (currently amended): A joining structure that is reinforced by welding a structural member to a base plate or a coupling flange via reinforcing ribs, characterized in that: said reinforcing ribs are tabular members gradually bent into a shape of U along the surface of said structural member with said reinforcing ribs located entirely external to the surface of said structural member; and said gradually bent portions having the shape of U protrude from the surface of said structural member in a manner in which said gradually bent portions are located at ~~an~~ a first end of said reinforcing ribs opposite to said base plate or coupling flange and a second end of said reinforcing ribs opposite to said first end is located adjacent to said base plate or coupling flange, wherein said reinforcing ribs are welded to both said structural member and to said base plate or coupling flange.

22 (currently amended): A joining structure that is reinforced by welding a structural member to a base plate or a coupling flange via reinforcing ribs, characterized in

that: said reinforcing ribs are tabular members gradually bent into a shape of V along the surface of said structural member with said reinforcing ribs located entirely external to the surface of said structural member; and said gradually bent portions having the shape of V protrude from the surface of said structural member in a manner in which said gradually bent portions are located at ~~an~~ a first end of said reinforcing ribs opposite to said base plate or coupling flange and a second end of said reinforcing ribs opposite to said first end is located adjacent to said base plate or coupling flange, wherein said reinforcing ribs are welded to both said structural member and to said base plate or coupling flange.

23 (new): A steel pole having a base plate or coupling flange located at least at one end of said steel pole;

an anchoring structure connecting said steel pole to said base plate or coupling flange;

wherein said anchoring structure comprises a joining structure according to claim 19.

24 (new): A steel pole having a base plate or coupling flange locate at least at one end of said steel pole;

an anchoring structure connecting said steel pole to said base plate or coupling flange;

wherein said anchoring structure comprises a joining structure according to claim 20.

Translation of Japan No. 50-77653 (Utility Model)

1. Title of the Invention:

Bolt for joining core boxes

2. Scope of Claim:

A bolt for joining core boxes, comprising a bolt body having threaded portions formed at both ends of a shaft portion, the threaded portions having a diameter smaller than that of the shaft portion, and a cap that is screwed onto the threaded portion and having an outer diameter nearly equal to, or smaller than, that of the shaft portion, and having a portion that is tapered at an end on the outer periphery thereof.

3. Detailed Description of the Invention:

This invention relates to a bolt for joining core boxes used for building up a high-rise building by stacking core boxes.

When it is attempted to build up a high-rise building by stacking box-shaped core boxes of a bearing structure incorporating dwelling facilities such as kitchen, toilet, bath room, etc. therein, and coupling and securing them together so that the core boxes work as skeletal members, it is required to simply and strongly stack and join the core boxes. When the junction is accomplished by welding, however, a laborious work is required, which is not advantageous from the standpoint of simplifying and facilitating the construction. When it is attempted to join them together by using bolts, it is not allowed to fasten the bolts from the interior of the boxes since the individual core boxes have been constituted as box-shaped finished products incorporating the dwelling facilities therein. Namely, a generally employed bolt junction system cannot be utilized.

As illustrated in Figs. 1 to 3, therefore, the present inventors have proposed a core box junction system in which

each core box 1 is constituted by H-steel beams 5 arranged at four corners, beams 6, floors 7 and walls 8 to constitute a kitchen 2, a bath room 3, a toilet 4, etc., the H-steel beams 5 are of a structure forming bores 10a, 10b reinforced with rib plates 9 at the ends of web portions 5a, a base plate 12 and a top plate 13 are secured to the upper end lower ends of the H-steel beam 5, bolt insertion holes 11, 11 are formed at the central portions of the base plate 12 and of the top plate 13, the core boxes are stacked to build up a high-rise building by using the core boxes 1, 1, and dwelling-constituting units 15, 15 as illustrated in Fig. 4, wherein a bolt 14a that is threaded at its both ends is inserted in the bolt insertion hole 11 of the top plate 13 in the lower core box so as to be screwed onto the lower nut 14b that has been fitted in advance in the bores 10b in the upper part of the beam and, then, the core box of the upper side is placed such that the bolt insertion hole 11 at the lower part of the beam is fitted to the bolt 14a, followed by fastening the nut 14c of the upper side, so as to secure the two core boxes. When the upper core box is placed on the lower core box, however, it is very difficult to bring the bolt 14a protruded in the lower core box into alignment with the bolt insertion hole 11 in the upper core box, requiring difficult crane operation. Besides, the bolts are often damaged by the core box of the upper side making it difficult to fasten the nuts. Therefore, the above bolt junction system could not be employed.

This invention was accomplished in view of the above-mentioned circumstances, and its object is to provide a bolt for joining core boxes, which makes it possible to safely, reliably and efficiently join the core boxes relying on the above bolt junction system, and facilitates the positioning of the core boxes without damaging the bolts.

An embodiment of the invention will now be described with reference to the drawings.

In Figs. 5 to 7, reference numeral 21 denotes a body of high tension bolt which has a shaft portion 22 of a large

diameter in the intermediate portion thereof and threaded portions 23a, 23b protruded from both ends of the shaft portion 22 and having a diameter smaller than that of the shaft portion 22. The peripheral edges at both ends of the shaft portion 22 are rounded to form round portions 22a of a suitable diameter. Reference numeral 24 denotes a cap which is screw-fitted onto the threaded portion 23a of the bolt body 21. The cap 24 has an outer diameter nearly equal to that of the shaft portion 22 of the bolt body 21, and its outer periphery at the end is tapered as designated at 24a so as to become narrow, and has its inner periphery internally threaded as designated at 25 so as to be screwed onto the threaded portion 23a, has an opening 26 of a diameter smaller than the internally threaded portion 25 at an end thereof, and has a plurality of small holes 27, 27 penetrating through the peripheral wall at the opening.

Referring to Fig. 8, the bolt is inserted at its threaded portion 23b of the side without the cap 24 in the bolt insertion hole 11 in the top plate 13 secured to the H-steel beam 5 of the core box, is screwed into a lower nut 28b that has been fitted in advance in the bore 10b formed in the upper web portion 5a of the H-steel beam 5, is placed on the bolt support plate 30 horizontally secured between the reinforcing rib plates 9 provided surrounding the bore 10b, and is mounted on the core box in a state where a portion thereof on the side of the cap 24 is protruded beyond the top plate 13 up to nearly one-half the shaft portion 22 thereof.

To join the core box of the upper side on the above core box as illustrated in Fig. 9, the core box of the upper side is placed on the core box of the lower side in a manner that the bolt insertion hole 11 in the base plate 12 secured to the H-steel beam 5 of the core box of the upper side is fitted to an end of the bolt that is mounting the cap 24 and is protruding from the core box of the lower side, and that the bolt insertion hole 11 in the base plate 12 is fitted to the shaft portion 22 of the bolt body while being guided by the taper portion 24a of the cap 24 to protect the threaded

portion 23a by the cap 24. The upper and lower core boxes are thus joined together. Thereafter, the cap 24 is removed by hand inserted through the bore 10a reinforced by the reinforcing rib plates 9 provided in the H-steel beam 5 of the core box of the upper side, and the threaded portion 23a of the bolt body 2 is exposed. Then, as illustrated in Fig. 10, the upper nut 28a is screwed and tightened, so that the core box placed thereon is firmly coupled and joined thereto. Here, the bore 10a of the lower side of the H-steel beam 5 is formed maintaining a considerable depth so that the cap 24 can be easily removed.

In the above embodiment, the outer diameter of the cap 24 is nearly equal to that of the shaft portion 22 of the bolt body 21. Here, however, the outer diameter of the cap 24 may be smaller than the above diameter. In this case, the bolt insertion hole 11 that fits to the bolt being guided by the cap 24, is guided by the rounded portion 22a of the shaft portion 22 continuous from the lower end of the cap, and is reliably fitted to the shaft portion 22.

Being constituted as described above, damage to the threaded portion is prevented owing to the cap 24 mounted on the bolt protruded from the core box of the lower side at the time of joining the bolt of the core box. Further, the cap 24 makes it possible to easily and efficiently accomplish the positioning between the bolt and the bolt insertion hole 11 in the core box of the upper side.

4. Brief Description of the Drawings:

Fig. 1 is a perspective view of a core box;

Fig. 2 is a front view illustrating, on an enlarged scale, a major portion in a state of bolt junction;

Fig. 3 is a sectional view along the line V - V in Fig. 2;

Fig. 4 is a perspective view schematically illustrating a state where the core boxes are stacked one upon the other;

Fig. 5 is a vertical front view illustrating an embodiment of this invention;

Fig. 6 is a view illustrating, on an enlarged scale, a portion of the bolt body;

Fig. 7 is a sectional view of the cap; and

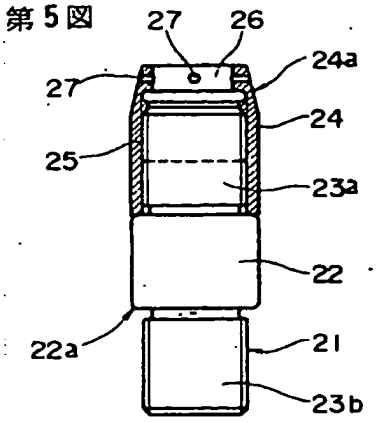
Figs. 8 to 10 are front views illustrating major portions in the steps of joining the core boxes by using the bolts in order of working procedure.

21 - bolt body 22 - shaft portion

23a, 23b - threaded portions 24 - cap

24a - tapered portion

第5図



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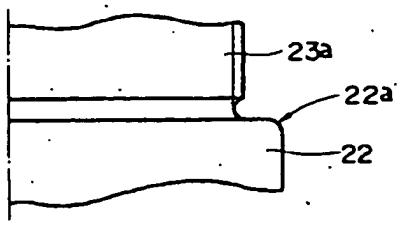

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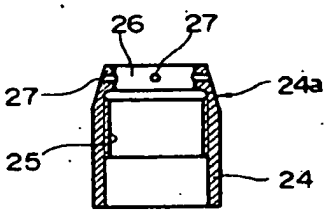

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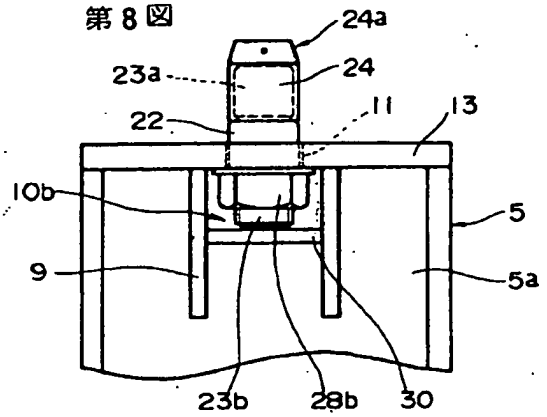

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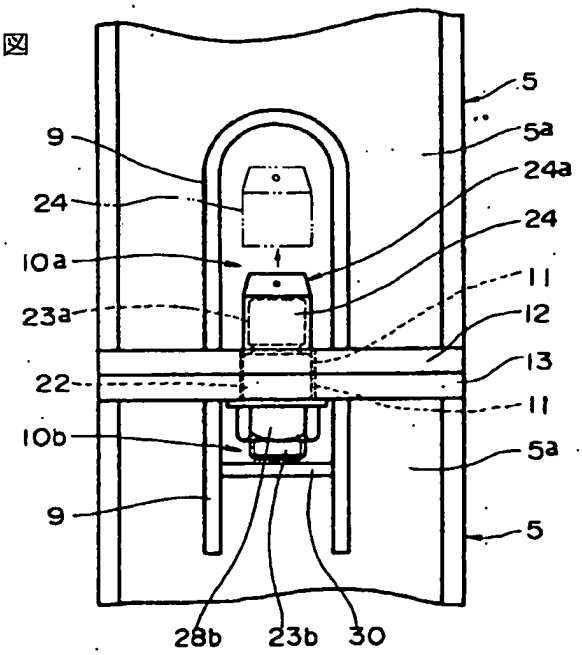

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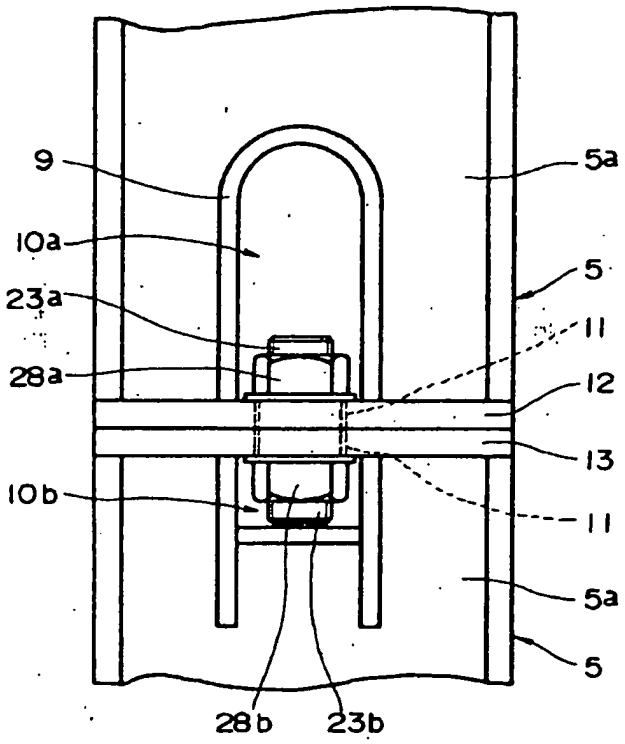

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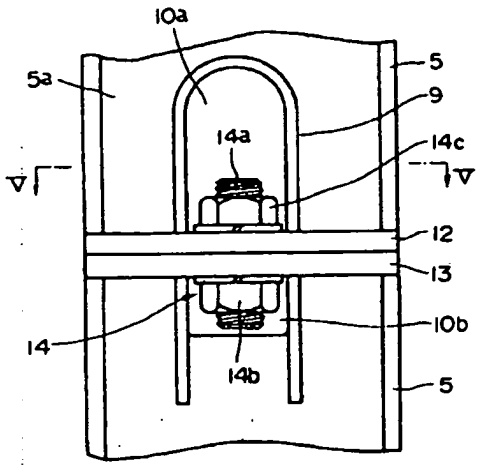

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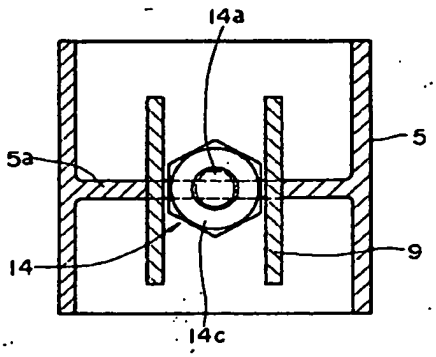

第4図